

**WHAT IS CLAIMED IS:**

1. An intravaginal uterine artery occlusion device, comprising:
  - a. an elongated shaft which has a distal end, an inner lumen configured to be interconnected to a vacuum source and extending to the distal end; and
  - b. a cervical receptacle which is secured to the distal end of the elongated shaft, which has an interior configured to receive at least part of a female patient's uterine cervix and which has at least one pressure applying surface to facilitate occlusion of the patient's uterine artery.
2. The device of claim 1 wherein the interior of the cervical receptacle is configured to be in fluid communication with the inner lumen in the shaft
3. The device of claim 1 wherein cervical receptacle is disposed about the patient's uterine cervix when the pressure applying surface is distally extendable to apply pressure to the patient's vaginal fornix.
4. The device of claim 3 wherein the pressure applying surface is part of a distally extendable curtain which has a proximal end secured to the cervical receptacle and a distal end secured to the pressure applying surface.
5. The device of claim 4 wherein the at least one extendable curtain comprises inflatable members.
6. The device of claim 4 wherein the at least one extendable curtain is cylindrically shaped.

7. The device of claim 4 including a pair of opposed extendable curtains, with each curtain having a proximal end secured to the cervical receptacle and a distal end secured to a pressure applying surface.

8. The device of claim 6 wherein the at least one extendable curtain comprise inflatable members.

9. The device of claim 1 wherein the leading edge has a blood flow sensor to facilitate location of the patient's uterine artery

10. The device of claim 3, wherein the blood flow sensor is a Doppler ultrasound sensor.

11. The device of claim 10, wherein the Doppler sensor is configured to sense ultrasound energy having a frequency of between about 5 MHz and about 19 MHz.

12. The device of claim 10, wherein the Doppler ultrasound sensor is configured to sense ultrasound energy having a frequency of between about 6 MHz and about 10 MHz.

13. The device of claim 4, wherein the Doppler ultrasound sensor is configured to sense ultrasound energy having a frequency of about 8 MHz.

14. The device of claim 1, wherein at least one blood flow sensor is disposed on the leading edge of the cervical receptacle and has a sensing direction distally away from the leading edge of the cervical receptacle to facilitate detection of the patient's uterine artery.

15. The device of claim 1 wherein at least one sensor is disposed on the leading edge of the cervical receptacle and has a forward looking sensing direction.

16. The device of claim 1 wherein the cervical receptacle has an elongated cervical sound within the interior thereof configured to be guided into a female patient's cervical canal to thereby position the receptacle about the exterior of the patient's cervix.

17. The device of claim 16 wherein the elongated cervical sound is provided with a rounded non-traumatic distal tip.

18. The device of claim 1 wherein the cervical receptacle has at least one groove in an inner surface.

19. The device of claim 17 wherein the at least one groove is parallel to a central axis of the receptacle.

20. The device of claim 1 wherein the interior of the receptacle is configured to receive the patient's cervix and part of the patient's vaginal fornix so that the leading edge of the receptacle applies sufficient pressure to the vaginal fornix to occlude the patient's uterine artery.

21. The device of claim 1 wherein the cervical receptacle has a lowered anterior lip which facilitates deploying the receptacle about the patient's uterine cervix.

22. The device of claim 1 wherein the pressure applying surface is part of an occlusion bar.

23. An intravaginal system for occluding a female patient's uterine artery, comprising:

- a. a cervical receptacle which has an open distal end with at least one leading edge, a closed proximal end, an interior chamber configured to

receive at least part of a female patient's uterine cervix through the open distal end, which has an opening in the closed proximal end;

- b. at least one blood flow sensor in or on a leading edge of the cervical receptacle to facilitate location of the patient's uterine artery to be occluded; and
- c. an elongated shaft which has a proximal end and a distal end secured to the proximal end of the cervical receptacle, which has an inner lumen interconnected with a vacuum source at one end and in fluid communication with the opening in the closed proximal end of the receptacle at the other end.

24. The non-invasive blood vessel occlusion device of claim 22, comprising a plurality of sensors.

25. An intravaginal method of treating a female patient's uterine disorder which includes occluding at least one of the female patient's uterine arteries, comprising:

- a. providing a uterine artery occlusion device having a cervical receptacle with an open distal end and a closed distal end, an interior chamber configured to receive at least part of the patient's uterine cervix through the open distal end, and an elongated shaft having an inner lumen which has a distal end in fluid communication with the interior of the receptacle and a proximal end configured for interconnection with a vacuum source;

- b. inserting the uterine artery occlusion device within the patient's vaginal canal and advancing the device therein until the receptacle is adjacent to the patient's uterine cervix.
  - c. positioning the receptacle to receive at least part of the patient's uterine cervix within the interior chamber;
  - d. holding at least part of the patient's uterine cervix in the interior chamber; and
  - e. pressing a leading edge of the receptacle against the female patient's vaginal fornix to occlude a uterine artery adjacent to the vaginal fornix.
26. The method of claim 25 wherein the uterine cervix is held in the interior chamber by applying a vacuum to the inner lumen of the elongated shaft in fluid communication with the interior chamber of the receptacle.
27. The method of claim 25, wherein a blood flow sensor is provided on a leading edge of the cervical receptacle.
28. The method of claim 25, wherein said blood flow sensor comprises a Doppler ultrasound blood flow sensor.
29. The method of claim 25, further comprising detecting a change in blood flow in the uterine artery.
30. The method of claim 24, wherein the uterine artery remains occluded by pressure applied by the leading edge of the cervical receptacle for a limited time.
31. The method of claim 30, wherein the limited time ranges from about 0.2 to about 24 hours.

32. The method of claim 30, wherein the limited time ranges from about 0.5 to about 16 hours.

33. An intravaginal uterine artery occlusion device, comprising:

- a. an elongated shaft which has a distal end, an inner lumen configured to be interconnected to a vacuum source and extending to the distal end;
- b. a cervical receptacle which is secured to the distal end of the elongated shaft, which has an interior chamber configured to receive at least part of a female patient's uterine cervix, which is in configured to be in fluid communication with the inner lumen in the shaft and which has at least one pressure applying surface to facilitate occlusion of the patient's uterine artery; and
- c. at least one extendable pressure application member secured to the cervical receptacle having.

34. The intravaginal uterine artery occlusion device of claim 33 wherein the pressure application member includes an occlusion bar with a pressure applying surface.

35. The intravaginal uterine artery occlusion device of claim 34 wherein the occlusion bar is hydraulically operated to extend distal to the leading edge of the uterine cervix receptacle.

36. The intravaginal uterine artery occlusion device of claim 35 wherein the occlusion bar has a pair of legs which extend from a surface of the occlusion bar opposite to the pressure applying surface thereof.

37. The intravaginal occlusion device of claim 36 wherein the pressure application member has a pair of arms with recesses therein configured to receive the legs extending from the occlusion bar.

38. The intravaginal occlusion device of claim 37 wherein at least one of the arm receiving recesses is a bore and is provided with a drive shaft slidably disposed therein configured to drive the received leg.

39. The intravaginal occlusion device of claim 38 wherein the drive shaft is driven by a first cylindrical member with one closed end secured to the proximal end of the drive shaft and one open end and a second cylindrical member with one open end which interfits with the open end of the first cylindrical member and one closed end with an aperture through which the drive shaft is slidably disposed.

40. The intravaginal occlusion device of claim 39 wherein the open ends of the first and second cylindrical members are threadably engaged.

41. The intravaginal occlusion device of claim 40 wherein the open end of the first cylindrical member has a threaded exterior and the open end of the second cylindrical member has a threaded interior, whereby rotation of one of the cylindrical member with respect to the other cylindrical member adjusts the capacity of the fluid chamber.

42. The intravaginal occlusion device of claim 39 wherein drive shaft is slidably disposed within an elongated tubular member secured at a distal end to the pressure applying head and at a proximal end to the closed end of the second cylindrical member.